



# Promoting health and safety in European Small and Medium-sized Enterprises (SMEs)



European Agency  
for Safety and Health  
at Work

## Knee problems in the floor laying trade

For obvious reasons floor laying has traditionally been done in a kneeling position. This is an unnatural position in which to spend the working day, and even with protective equipment it places a strain on the knees (and on other parts of the body) and frequently leads to injury and long-term problems. But studies have shown that with recently developed tools much of the work could be carried out standing up. So the team in Denmark set out to reduce knee problems by showing how floor layers could cut down the time spent putting undue strain on the knees. They trained instructors in using the new tools so that they could in turn instruct operational floor layers on a region-by-region basis. An evaluation of the new working methods was then carried out.

### Who organised the project?

Arbejds-og Miljømedicinsk afdeling - Skive Sygehus (Department of Occupational Medicine – Skive Hospital)

### Who were the partner organisations?

AMU-center MidtVest, Denmark

Wood Industry and Building Workers' Union, Denmark

Floor Laying Employers' Association, Denmark

### What was it called?

Reduction of knee-straining working activities in the floor laying trade.  
Prevention of knee disorders.

### What was the project about?

This project was about reducing the number of working positions in the floor laying trade that put undue strain on the knees, by using new working methods. The project team set out to spread these methods by training ten instructors from the trade. These instructors subsequently trained floor layers in using tools which make it possible to prime, glue and weld from an upright position. Altogether 292 floor layers took part in courses between February and June 2003. They completed questionnaires before and three months after the course. The project evaluation also included semi-structured interviews of floor layers, employers, instructors, and people from the organisations involved.

### What did they do?

The project team arranged eight two-hour regional meetings: in Kolding, Aalborg, Herning, Aarhus, Glostrup, Naestved, and Bornholm. They were attended by 174 people (91% floor layers and 9% employers). The trade union and the employers' association gave information about the project, and some theoretical and practical instruction in the new working techniques. Ten instructors then took part in a two-week course in the new working techniques, in ergonomics and in passing on their knowledge. They in turn ran two-day courses on the new working techniques for working floor layers. These took place at local technical schools around the country. The programme for the courses included:

- theoretical instruction in different kinds of new tools;
- theoretical instruction in their use;
- practical instruction in the use of the tools when priming, gluing, welding, cutting welding wire, and cutting up linoleum.

#### Arbejds-og Miljømedicinsk afdeling - Skive Sygehus

##### Type of organisation

✓ Occupational Health Service

##### Sector

✓ Floor laying

##### Activity

✓ Training

##### Outputs

✓ Training materials and report

**Total budget:** € 276,616

**Agency support:** € 80,000

Altogether the project ran: four local courses with 38 participants (October-November 2002); a two-week course for the ten instructors at AMU MidtVest (January 2003); and 43 local courses for 254 participants given by the ten newly trained instructors (February-June 2003).

The floor layers filled in questionnaires on the two-day courses. These included questions about musculoskeletal health problems, psychological conditions, and about the new working methods. The response rate was 98%.

Further questionnaires were sent out after three months and 66% had been completed by the time the final project report was written. The team also interviewed ten floor layers with varied experience in using the new tools, four employers and seven instructors, including four in a focus group. Representatives from the trade union and the employers' association were also interviewed in a focus group. All had been given questions in advance.

One representative from the employers' body and one specialist teacher representing the floor layers assessed the quality of the work, looking at floors made in the traditional way and using the new working methods. The evaluations were 'blind' so the examiner did not know which technique had been used. Timed studies were also carried out.

The quality study found no difference between the work done by traditional methods and that done with the new tools. The time study showed no difference in the time spent on a task, although there was a tendency for the instructor (who was well trained) to be able to speed up the job using the new techniques. More importantly the floor layers using the new tools reported less musculoskeletal pain from the neck, shoulders, wrists, back, and knees.

## What was produced?

They produced a four-page brochure for floor layers and their employers; instructional material for working in an upright position; articles for the trade journal and a 66-page report.



### Would you like to know more about this project?

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